IN THE CLAIMS:

1. (Currently Amended) An apparatus for determining a failure in an automatic transmission in a vehicle while running, comprising:

a first detecting portion which detects an ~~operating state~~ input speed of the automatic transmission;

an estimating portion which estimates ~~the operating state~~ an input speed of the automatic transmission when the automatic transmission is in a neutral state in which transmission of power is interrupted, based on torque input from a power source of the vehicle to the automatic transmission; and

a failure determining portion which determines~~, while distinguishing between,~~ whether the failure in the automatic transmission is a first failure related to the neutral state of the automatic transmission ~~and~~ or a second failure that is different from the first failure, based on the detected ~~operating state~~ input speed and the estimated ~~operating state~~ input speed,

wherein the failure determining portion determines that the first failure related to the automatic transmission being in the neutral state has occurred when a difference between the detected input speed and the estimated input speed falls below a preset value, and determines that the second failure related to slipping of a frictional engaging element with which a gear speed of the automatic transmission is established has occurred when the difference between the detected input speed and the estimated input speed exceeds the preset value.

2. (Canceled)

3. (Currently Amended) The apparatus according to claim ~~2~~ 1, wherein the failure determining portion determines~~, while distinguishing between,~~ whether the failure n the automatic transmission is the first failure related to the neutral state ~~and~~ or the second failure related to slipping of a frictional engaging element while the vehicle is running in a predetermined gear speed.

4. (Currently Amended) The apparatus according to claim ~~2~~ 1, further comprising:

a second detecting portion which detects a speed of a power source of the vehicle,

wherein the failure determining portion determines~~, while distinguishing between,~~ whether the failure in the automatic transmission is the first failure related to the neutral state ~~and~~ or the second failure related to slipping of a frictional engaging element when the speed of the power source has fulfilled a preset condition.

5. (Canceled)

6. (Canceled)

7. (Currently Amended) The apparatus according to claim ~~6~~ 1, wherein the automatic transmission includes a first control valve and a second control valve, both of which control hydraulic pressure; the first control valve controls an application pressure of the frictional engaging element with which a gear speed of the automatic transmission is established and the second control valve regulates the pressure of hydraulic fluid discharged from an oil pump; and the first failure related to the neutral state is a failure of the first control valve, and the second failure related to slipping of the frictional engaging element is a failure of the second control valve.

8. (Canceled)

9. (Canceled)

10. (Currently Amended) A method for determining a failure in an automatic transmission in a vehicle while running, comprising the steps of:

A. detecting an ~~operating state~~ input speed of the automatic transmission;

B. estimating ~~the operating state~~ an input speed of the automatic transmission when the automatic transmission is in a neutral state in which transmission of power is interrupted, based on torque input from a power source of the vehicle to the automatic transmission;

C. determining whether a failure has occurred in the automatic transmission; and

D. determining, when it has been determined that the failure has occurred, ~~determining~~ whether ~~that~~ the failure in the automatic transmission is a first failure related to the neutral state of the automatic transmission or a second failure that is different from the first failure, based on the detected ~~operating state~~ input speed and the estimated ~~operating state~~ input speed,

wherein it is determined in step D that the failure is the first failure related to the automatic transmission being in the neutral state has occurred when a difference between the detected input speed and the estimated input speed falls below a preset value, or that the second failure related to slipping of a frictional engaging element with which a gear speed of the automatic transmission is established has occurred when the difference between the detected input speed and the estimated input speed exceeds the preset value.

11. (Canceled)

12. (Currently Amended) The method according to claim ~~11~~ 10, wherein it is determined in step D whether the failure is the first failure related to the neutral state of the automatic transmission or the second failure related to slipping of a frictional engaging element while the vehicle is running in a predetermined gear speed.

13. (Currently Amended) The method according to claim ~~11~~ 10, further comprising the step of:

E. detecting a speed of a power source of the vehicle,

wherein it is determined in step ~~E~~ D whether the failure is the first failure related to the neutral state or the second failure related to slipping of a frictional engaging element when the speed of the power source has fulfilled a preset condition.

14. (Canceled)

15. (Canceled)

16. (Currently Amended) The method according to claim ~~15~~ 10, wherein the first failure related to the neutral state is a failure of a first control valve provided in the automatic transmission, which controls an application pressure of the frictional engaging element with which a gear speed of the automatic transmission is established, and the second failure related to slipping of the frictional engaging element is a failure of a second control valve provided in the automatic transmission, which regulates a pressure of hydraulic fluid discharged from an oil pump.

17. (Canceled)

18. (Canceled)